

# Career and Technical Education

## Stone High School

400 East Border Avenue  
Wiggins, Mississippi 39577  
Telephone (601) 928-5492  
Facsimile (601) 928-6874

**Dr. Barbara Fowler**  
Career/Technical Director

**Mrs. Jessica Jones**  
Student Services Coordinator

**Mrs. Carol Rushing**  
College/Career Readiness Coordinator

May 22, 2020

### SCSD, CAREER & TECHNICAL EDUCATION, STUDENT EXPECTATIONS

**In light of the closure of school buildings for the remainder of the 2019-20 school year, Governor Tate Reeves' Executive Order 1476 has requested that districts update their plans to include Learning at Home and Summer Enrichment for all students during the months of June and July.**

Parents are their child's first teachers in life and know their child better than anyone else. Parents have valuable insights into their child's needs, strengths, abilities, and interests. The collaboration of parents and educators is vital in guiding each child toward success.

The following Learning at Home and Summer Enrichment Plan outlines what your child should learn and know for Career and Technical Education. You can encourage your child's academic/career growth by reinforcing classroom activities at home.

The achievement of the expectations will help your child meet the assessment standards established by our state. It is only through your support and active participation in your child's education that we form a partnership for success for all the children in the Stone County School District.

If you have specific questions regarding curriculum or school programs, please telephone Stone High School, at 601-928-5492, and contact Dr. Barbara Fowler, Career and Technical Director. This plan will help set clear and consistent expectations for your child, build your child's knowledge and skills, and help set high goals for your child.

Sincerely,



Barbara Fowler, PhD  
Career and Technical Director  
Stone High School

## Summer Learn-at-Home Activities

### 1. Exploring Computer Science

Tonya Jackson-Hall & Jared Davis, Instructors

### 2. Entrepreneurship

Tonya Jackson-Hall, Instructor

1. Please follow the directions below by visiting/accessing the following:
  - a. <https://mdek12.org/LearningAtHome>
  - b. Learning-at-Home Resources for Districts
    - i. <https://mdek12.org/covid19/districtresources>
    - ii. [Career and Technical \(CTE\) Resources](#)
    - iii. <https://www.ctelearn.org/free-resources.php>
    - iv. CTE Learn: ACTE Online Learning Network
    - v. Workplace Skills Tutorials (Learn the skills you need to boost your career success.)
      1. <https://www.ctelearn.org/tutorials.php>

#### Workplace Skills Tutorials

We offer a large selection of free online tutorials covering basic workplace skills areas. These tutorials provide informal learning opportunities with no certificates or CEUs awarded. You should be able to complete a tutorial in less than an hour.

## June 2020

#### Career Development

- CA101 Personal Self-Assessment
- CA102 Getting Along with Your Boss
- CA103 Handling Stress & Preventing Burnout

#### Communications Skills

- CO101 Using Effective Communication Methods
- CO102 Writing for Results
- CO103 Making Powerful Presentations
- CO105 Providing Constructive Feedback
- CO106 Communicating Beyond Words
- CO107 Active Listening Techniques
- CO108 Communicating with the Media - Interviews
- CO109 Receiving and Responding to Feedback Constructively

## July 2020

#### Creativity & Innovation

- CI101 Problem Solving Techniques
- CI102 Decision Making Techniques

- CII03 Creative Thinking and Idea Generation
- CII04 Fostering an Innovative Work Environment

#### Supervisory Skills

- SU101 Recognizing Different Management Styles
- SU102 Supervising/Managing Different Employee Types
- SU103 Identifying Basic Leadership Functions
- SU104 Developing Basic Leadership Qualities & Skills

#### Role, Responsibility, Authority and Accountability

- SU206 How to Delegate Effectively

#### Training Management

- TM101 The Case for Formal Training

**In addition to the other assignments, look at doing some of these community service projects:**

- **Community service ideas**
  - Write an encouragement note to community leaders, residents of nursing homes, healthcare providers, teachers, classmates, neighbors, grandparents, etc.
  - After receiving permission- write encouraging messages on sidewalks of hospitals, nursing homes, or neighborhoods with sidewalk chalk
  - Organize a neighborhood scavenger hunt. For example, if you have a neighborhood Facebook page, ask people to put out stuffed bears on the porch, hiding in windows or trees, so the children can go on a “bear hunt” as they walk through the neighborhood.
  - Read aloud and tutor siblings as they are Learning at Home
  - Plan and cook meals for your family
  - Lawn service for neighbor or elderly person
  - Conduct a phone interview with a small business owner, healthcare professional, or community leader about the impact of COVID-19. Sample questions:
    - What adaptations have been made in your business?
    - What are some positive outcomes of the pandemic?
    - Has this changed the way you will do business when the pandemic is over?
    - What life lessons have you learned?
    - How can a student make a positive impact?
    - What influence has social media had on this pandemic?
    - Have you received or provided pandemic training?
    - Do you feel like you were prepared for a pandemic
- Write an essay on how the pandemic has impacted you and your family and friends.

**Family Dynamics Instructor: Connie Guthrie**  
**June and July 2020, SCSD Learning-at-Home & Summer Enrichment Plan**

1. Please follow the directions below by visiting/accessing the following:
  - a. MDE Learning-at-Home Resources for Family  
<https://mdek12.org/LearningAtHome>
  - b. Learning-at-Home Resources for Districts  
<https://mdek12.org/covid19/districtresources>
  - c. Career and Technical (CTE) Resources  
<https://www.ctelearn.org/free-resources.php>
  - d. Curriculum for this class under the tab Enhancement Course: Family & Consumer Sciences  
<https://www.rcu.msstate.edu/Curriculum/CurriculumDownload.aspx>

**June 2020: Family Dynamics Module Titles** Please use for these modules.....Georgia Virtual Learning:  
<http://www.gavirtuallearning.org/Resources/CTAEResources/CTAEShared/SharedBanking,InsuranceInvesting.aspx>

- Communication in the Workplace View
- Productivity and Organization View
- Ready for Work View
- Teamwork View
- Workplace Ethics and Character View

**July 2020: Family Dynamics Module titles**

- Leadership Development: View
- BANKING AND MONEY: View
- THE BUSINESS OF BANKING: View
- GIVING CREDIT: View
- INVESTMENT BASICS: View
- FINANCIAL PLANNING AND RISK MANAGEMENT: View
- HOW DOES MONEY GROW?: View

**Nutrition & Wellness: Instructor Mrs. Connie Guthrie**

Visit: [mdek12.org](http://mdek12.org); District Resources

**Career and Technical Education Resources**

**Georgia Virtual Learning:**

4. Curriculum for this class under the tab Enhancement Course: Family & Consumer Sciences  
<https://www.rcu.msstate.edu/Curriculum/CurriculumDownload.aspx>

**1. June 2020 Modules: Food, Nutrition, & Wellness**

For these modules please use the Georgia Virtual Learning site:

<http://www.gavirtuallearning.org/Resources/CTAEResources/CTAEShared/SharedBanking,InsuranceInvesting.aspx>

FCCLA	View
Exploring Food Choices	View
The Nutrients You Need	View
Wellness	View

**2. July 2020 Modules: Food, Nutrition, & Wellness**

Special Dietary Needs	View
Safety and Sanitation	View
Foodborne Illness and Contaminants	View
Food Technology	View
Food Selection and Storage	View
Food and Nutrition Careers	View

## AEST

Shelby Hudson, AEST Instructor

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  - a. <https://mdek12.org/LearningAtHome>
  - b. Learning-at-Home Resources for Districts
    - i. <https://mdek12.org/covid19/districtresources>
    - ii. [Career and Technical \(CTE\) Resources](#)
    - iii. MSU Research and Curriculum Unit:
      1. [https://docs.google.com/document/d/112y1Juqq2tyd7t\\_BMrjac\\_ZCBjqAkiYt\\_2CfgmA1WDE/edit](https://docs.google.com/document/d/112y1Juqq2tyd7t_BMrjac_ZCBjqAkiYt_2CfgmA1WDE/edit)
      2. [https://docs.google.com/document/d/1ivLqa71ULc-cidhL1XC\\_cVD2Fa5RqDdg5ZP52kUeXAE/edit](https://docs.google.com/document/d/1ivLqa71ULc-cidhL1XC_cVD2Fa5RqDdg5ZP52kUeXAE/edit)
      3. [https://docs.google.com/document/d/1TYXFkTIEr\\_qci6serBOBcsaKbacl0f47rITZtFKfaaE/edit?nativeconvert=1](https://docs.google.com/document/d/1TYXFkTIEr_qci6serBOBcsaKbacl0f47rITZtFKfaaE/edit?nativeconvert=1)
      4. [https://docs.google.com/document/d/1KZ0NKn2h\\_pGWv9tgal2tK2ppiEC6vPtzoATuTB25RRl/edit](https://docs.google.com/document/d/1KZ0NKn2h_pGWv9tgal2tK2ppiEC6vPtzoATuTB25RRl/edit)
      5. <https://docs.google.com/document/d/1ncJFOaVOSIN6SEpsuJXkumjU7ywmNBEIisp5EiL221Y/edit>
    - iv. Curriculum Vocabulary:
      1. <https://docs.google.com/document/d/1DBvrOd4X2bT1aMt0a7dedrTXnIBSszl4GGMKJQkstEM/edit>
      2. [https://docs.google.com/document/d/1yK18cGPmKz-AfRh2VOQ60wOTnG3DB\\_ePUs1oB4JaPC8/edit](https://docs.google.com/document/d/1yK18cGPmKz-AfRh2VOQ60wOTnG3DB_ePUs1oB4JaPC8/edit)
      3. <https://docs.google.com/document/d/1qvim7XzyR9XalxXHj9oxGBw4XA46E9Yh7q6sn5GuS8c/edit>
    - v. Teaching: Online Companion Website: (e-flash cards, interactive vocabulary games and activities, and interactive self-assessment quizzes. <https://www.g-wlearning.com/agriculture/2357/index.htm>)
    - vi. <https://www.ctelearn.org/free-resources.php>
    - vii. CTE Learn: ACTE Online Learning Network
    - viii. Workplace Skills Tutorials (Learn the skills you need to boost your career success.)
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## July 2020

### Creativity & Innovation

- CI101 Problem Solving Techniques
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- CI103 Creative Thinking and Idea Generation
- CI104 Fostering an Innovative Work Environment

### Supervisory Skills

- SU101 Recognizing Different Management Styles
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- SU104 Developing Basic Leadership Qualities & Skills
- SU105 Role, Responsibility, Authority and Accountability
- SU106 How To Delegate Effectively

### Training Management

- TM101 The Case for Formal Training
  1. Complete the objectives that you have for the remainder of the year.
  2. If objectives completed, include a reference to and objectives that students will need to begin the second-year course for 2020-2021. (Vocabulary, calculating percentages, reading a ruler, etc.)
  3. Please review the "ALL" of CTE Resources provided by MDE and select activities from the MDE recommended resources for learning-at-home and summer enrichment plan for June/July 2020.

# Culinary Arts I & II

Instructor: Mrs. Jaclyn Parker

## June and July 2020, SCSD Learning-at-Home & Summer Enrichment Plan

1. Please follow the directions below to access activities:
  - a. June 2020-Culinary Arts Online Textbook Companion Website for additional activities and vocabulary
    - i. Culinary Arts I - [https://wps.prenhall.com/chet\\_nra\\_foundations\\_1/](https://wps.prenhall.com/chet_nra_foundations_1/)
      1. Chapters 10 and 12 - Self-graded questions
      2. Chapters 10 and 12 - Crossword puzzle
      3. Chapter 10 - Mise En Place - The Dining Room
    - ii. Culinary Arts II - [https://wps.prenhall.com/chet\\_nra\\_foundations\\_2/](https://wps.prenhall.com/chet_nra_foundations_2/)
      1. Chapters 3, 5, and 11 - Self-graded questions
      2. Chapter 3, 5, and 11 - Crossword puzzle
  - b. June/July 2020 Workplace Skills Tutorials (Culinary Arts I and II)
    - i. <https://mdek12.org/LearningAtHome>
    - ii. Learning-at-Home Resources for Districts - <https://mdek12.org/covid19/districtresources>
    - iii. [Career and Technical \(CTE\) Resources](#)
    - iv. <https://www.ctelearn.org/free-resources.php>
    - v. CTE Learn: ACTE Online Learning Network
    - vi. Workplace Skills Tutorials (Learn the skills you need to boost your career success.)
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## June 2020

### Career Development

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- SU106 How To Delegate Effectively

### Training Management

- TM101 The Case for Formal Training

**Health Science I & II**  
**Health Sciences (Core) and Healthcare and Clinical Services**  
**Cassie Hickman, Instructor**

**June and July 2020**  
**SCSD Learning-at-Home & Summer Enrichment Plan**

**June 2020**

Objectives:

Please use the following link to access the online modules for the objectives list below.

**Georgia Virtual Learning: Intro to Healthcare Science**

<http://www.gavirtualearning.org/Resources/CTAEResources/CTAEShared/SharedIntrotoHealthcareScience.aspx>

(Please Note: Module titles have been highlighted for clarity.)

Health Science (Core) Curriculum: Unit 4: Communication and Teamwork

1. TSW describe the concepts of effective communication.
2. TSW Compare the roles and responsibilities of individual members as part of the health care team.
3. TSW explain the principles of interacting effectively and sensitively with all members of the health care team.
4. TSW introduce appropriate medical terminology and abbreviations.

Healthcare and Clinical Services Curriculum: Unit 1: Course Orientation, Safety Review, Clinical Policies, and Employability

1. TSW describe the purpose of the course, review safety skills, and explain clinical policies.
2. TSW identify the personal traits for the health care professional.
3. TSW demonstrate basic employability skills.
4. TSW recognize the components for career decision-making.
  - a. Modules:
    - i. Communication in the Workplace
    - ii. Productivity and Organization
    - iii. Ready for Work
    - iv. Teamwork
    - v. Workplace Ethics and Character
    - vi. Healthcare Delivery Systems
    - vii. Careers
    - viii. Teamwork and Leadership
    - ix. Infection Control
    - x. Ethics and Diversity

- xi. Legal Responsibilities
- xii. Communication
- xiii. Health Information Management

Healthcare & Clinical Services Curriculum: Unit 2: Emergency Services and Technical Skills

1. TSW perform the skills obtained in training or certification for Basic Life Support for Health Care Providers
  - a. Module:
    - i. CPR & Safety

Healthcare & Clinical Services Curriculum: Unit 3: Human Growth & Development

1. TSW discuss the stages of growth and development across the lifespan.
  - a. Module:
    - i. Development Across the Life Span

Healthcare & Clinical Services Curriculum: Unit 7: Pharmacological and Diagnostic Services

1. TSW apply mathematical computations related to health care procedures.
  - a. Module:
    - i. Medical Math

## July 2020

Objectives:

Please use the following link to access the online modules for the objectives list below.

**Georgia Virtual Learning: Health**

<http://www.gavirtualllearning.org/Resources/CTAEResources/CTAEShared/SharedIntrotHealthcareScience.aspx>

(Please Note: Module titles have been highlighted for clarity.)

1. TSW describe the fundamentals of wellness, healthy behaviors and the prevention of disease processes. (Health Science - Core: Unit 9: Reproduction and Health Maintenance)
  - a. Understanding Health and Wellness Modules
    - i. Understanding Health and Wellness Overview
    - ii. Your Total Health
    - iii. What Affects Your Health?
    - iv. Health Risks and Your Behavior
    - v. Promoting Health and Wellness

2. TSW explore the field of mental health services. (Healthcare & Clinical Services: Unit 6: Therapeutic Services)
  - a. Mental and Emotional Health Modules
    - i. Mental and Emotional Health Overview
    - ii. Achieving Mental and Emotional Health
    - iii. Managing Stress and Coping with Loss
    - iv. Mental and Emotional Problems
    - v. Getting Help
3. TSW compare the roles and responsibilities of individual members as part of the health care team. (Health Science - Core: Unit 4: Communication and Teamwork)
  - a. Personal and Healthy Relationships Modules
    - i. Personal and Healthy Relationships Overview
    - ii. Skills for Healthy Relationships
    - iii. Family Relationships
    - iv. Peer Relationships
    - v. Resolving Conflict
4. TSW explore the field of nutrition and dietetic services. (Healthcare & Clinical Services: Unit 6: Therapeutic Services)
  - a. Healthy Eating Modules
    - i. Healthy Eating Overview
    - ii. Nutrition for Health
    - iii. Managing Weight
    - iv. Eating Disorders and Lifelong Nutrition
    - v. Physical Activity and Healthy Eating
5. TSW explain the importance of maintaining transmission-based isolation precautions. (Health Science - Core: Unit 2: Safety and Infection Control)  
TSW describe strategies for the prevention of diseases. (Health Science - Core: Unit 9: Reproduction and Health Maintenance)
  - a. Diseases and Prevention Modules
    - i. Diseases and Prevention Overview
    - ii. Communicable Diseases
    - iii. Heredity and the Immune System
    - iv. Non-communicable Diseases
    - v. Cancer, Diabetes, and Osteoporosis
6. TSW describe the field of emergency services and demonstrate the necessary skills to provide first aid treatment. (Healthcare & Clinical Services: Unit 2: Emergency Services and Technical Skills)
  - a. Safety and Environmental Health Modules
    - i. Safety and Environmental Health Overview

- ii. Safety and Injury
  - iii. First Aid
  - iv. Community Health
  - v. Environmental Health
7. TSW describe strategies for the prevention of diseases including self-care. (Health Science - Core: Unit 9: Reproduction and Health Maintenance)
- a. Tobacco Modules
    - i. Tobacco Overview
    - ii. Health Risks
    - iii. Choosing to be Tobacco-Free
    - iv. Promoting a Smoke Free Environment
    - v. Tobacco-Persuade Others
8. TSW discuss the stages of growth and development across the lifespan. (Healthcare & Clinical Services: Unit 3: Human Growth and Development)
- a. Alcohol and Other Drugs Modules
    - i. Alcohol and Other Drugs Overview
    - ii. Health Risks and Alcohol
    - iii. Medicines
    - iv. Illegal Drugs
    - v. Living Drug-Free
9. TSW discuss disease and disorders of the reproductive system and related signs, symptoms and treatment methods. (Health Science - Core: Unit 9: Reproduction and Health Maintenance)
- a. Sexual Health Modules
    - i. Sexual Health Overview
    - ii. Relationships
    - iii. Sexually Transmitted Infections
    - iv. HIV/AIDS
    - v. Consequences of Teen Sex

**Teacher Academy I and II**  
Shelly Amacker, Teacher Academy Instructor

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  - b. Learning-at-Home Resources for Districts
    - i. <https://mdek12.org/covid19/districtresources>
    - ii. [Career and Technical \(CTE\) Resources](#)
    - iii. MSU Research and Curriculum Unit: Appendix D: Vocabulary  
[https://www.dropbox.com/s/oxa53bm56de4cci/Teacher%20Resource Teacher%20Academy%202018.docx?dl=1](https://www.dropbox.com/s/oxa53bm56de4cci/Teacher%20Resource%20Teacher%20Academy%202018.docx?dl=1)
    - iv. Teaching: Online Companion Website: (e-flash cards, interactive vocabulary games and activities, and interactive self-assessment quizzes.  
[www.g-wlearning.com/teaching/](http://www.g-wlearning.com/teaching/)
    - v. <https://www.ctelearn.org/free-resources.php>
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## Training Management

TM101 The Case for Formal Training

1. Complete the objectives that you have for the remainder of the year.
2. If objectives completed, include a reference to and objectives that students will need to begin the second-year course for 2020-2021. (Vocabulary, calculating percentages, reading a ruler, etc.)
3. Please review the "ALL" of CTE Resources provided by MDE and select activities from the MDE recommended resources for learning-at-home and summer enrichment plan for June/July 2020.

**Welding I**  
**June and July 2020**  
**SCSD Learning-at- Home & Summer Enrichment Plan**  
**Instructor: Mr. Hollis Dewayne Williams**

**Oxyfuel Cutting Competencies and Suggested Objectives:**

1. Identify and describe the basic equipment, setup, and safety rules for proper use of equipment, and prepare base metal for oxyfuel cutting. DOK 2, WOC, WSS
2. a. Identify and explain the use of oxyfuel cutting equipment.
3. b. Demonstrate how to use an oxyfuel torch.
4. c. Perform oxyfuel cutting • Straight line and square shapes • Piercing and slot cutting • Bevels • Washing • Gouging
5. d. Set up and operate a motorized, portable oxyfuel gas cutting machine

Note: This is Module 2 (29102-15) in Welding Level 1 Trainee Guide, 5<sup>th</sup> Edition [www.nccerconnect.com](http://www.nccerconnect.com)

Note: See [www.youtube.com>watch](http://www.youtube.com/watch) Oxy Fuel Cutting---1. The Full Guide to Oxy Fuel Cutting-You Tube

**Note: For June 1 –June 12**

**SMAW Equipment and Set-up Competencies and Suggested Objectives:**

1. Demonstrate SMAW-related safety practices and recognized how electrical characteristics apply to SMAW.DOK 3, SWS
2. Identify and describe SMAW equipment to include welding cable, connectors, and common tools used to clean various welds. DOK 2, SWS
3. Explain and demonstrate how to set up and start SMAW equipment.

Note: This is Module 7 (29107-15) in Welding Level 1 Trainee Guide, 5<sup>th</sup> Edition [www.nccerconnect.com](http://www.nccerconnect.com)

Note: See [www.youtube.com>watch](http://www.youtube.com/watch) SMAW Equipment and Set-up Competencies ----1.The Beginning Guide to SMAW Amperage-You Tube 2.Stick Welding 101: Getting Started with SMAW-You Tube

**Note: For June 15-June 26**

**SMAW Electrodes Competencies and Suggested Objectives:**

1. Explain the SMAW electrode classification system and how to select the proper electrode for the task. DOK 2, SES a. Recognize the AWS filler metal specification system and various electrode characteristics. b. Describe the characteristics of the four main electrode groups.
2. Explain how to select electrodes and describe their proper care and handling. DOK 2, SES a. Select he proper electrodes for any given welding task. b. Demonstrate the proper handling and storage of electrodes.

**Note: This is Module 8 (29108-15) in Welding Level 1 Trainee Guide, 5<sup>th</sup> Edition [www.nccerconnect.com](http://www.nccerconnect.com)**

Note: See [www.youtube.com.watch](http://www.youtube.com.watch) SMAW ELECTRODES---1. NCCER Welding Basic 34108-10 4.0 SMAW-You Tube 2. SMAW Electrodes 7018 Welding- Welding Rod-You Tube 3. Stick Welding 101-Getting Started With SMAW-YouTube

**Note: For June 29- July 10**

**SMAW Beads and Fillet Welds Competencies and Suggested Objectives**

1. Explain how to prepare for SMAW welding and how to strike an arc. DOK 3, SBF a. Identify safety practices related to SMAW. b. Prepare the area and equipment for welding. c. Demonstrate how to strike an arc and respond to arc blow
2. Explain how to successfully complete various types of beads and welds. DOK 3, SBF a. Demonstrate how to properly restart and terminate a weld pass. b. Perform the proper technique required to produce stringer beads

Note: This is Module 9 (29109-15) in Welding Level 1 Trainee Guide, 5<sup>th</sup> Edition [www.nccerconnect.com](http://www.nccerconnect.com)

Note: See [www.youtube.com.watch](http://www.youtube.com.watch) SMAW BEADS and FILLET WELDS---1. Welding 102-Stringer Beads and Fillet Weld-You Tube 2. Fillet Welds-You Tube

**Note: For July 13- July 31**



**Welding II**  
**SCSD Learning-at-Home & Summer Enrichment Plan**  
**June and July 2020**

**Course Description: Advanced Welding II**  
**Instructor: Mr. Mark Bounds**

**This course will offer students the opportunity to examine Gas Metal Arc Welding (GMAW) and Flux-Cored Arc Welding (FCAW). Additionally, students will learn about Gas Tungsten Arc Welding (GTAW). Students will learn safety measures, setup procedures, and welding techniques for each type of welding.**

**Orientation and Welding Safety Review: Note: June1-4**

**Competencies and Suggested Scenarios: Note: See Youtube “Welding Safety”**

1. Describe local program and vocational or career and technical center policies and procedures.
  - a. Describe local program and vocational or career and technical center policies and procedures.
2. Describe employment opportunities and responsibilities of the welder
  - a. Describe employer expectations in the workplace.
3. Explore leadership skills and personal development opportunities.
  - a. Demonstrate team-building and leadership skills.
  - b. Demonstrate appropriate work ethics through practice.
4. Describe general safety rules for working in a welding shop/lab and industry.
  - a. Discuss safety issues and prevention associated with the installation and welding shop or lab area.
  - b. Demonstrate fire safety and prevention techniques in the workplace.

**Base Metal Preparation: Note: June 8-11**

**Competencies and Suggested Objectives: Note: see Youtube “Edge preparations and edge joint”.**

1. Identify safety practices related to preparing various types of base metals and demonstrate basic cleaning procedures.
2. Identify and describe basic weld joint design and types of welds.
  - a. Identify and describe the loads that are routinely placed on weld joints.
  - b. Describe a welding procedure specification and the information it provides.
3. Prepare joints for welding.
  - a. Mechanically prepare joints for welding.
  - b. Thermally prepare joints for welding.

**Joint Fit-up and Alignment: June 15-19**

**Competencies and Suggested Objective: Note: see Youtube “Fitup”**

1. Identify fit-up gauges and measuring devices to check joint fit-up
  - a. Discuss the use of Straightedges.
  - b. Discuss the use of Squares.

- c. Discuss the use of Levels.
- d. Discuss the use of Hi-Lo Gauges.
- 2. Demonstrate the use of fit-up gauges and measuring devices to check joint fit-up.
  - a. Demonstrate the proper use of Straightedges.
  - b. Demonstrate the proper use of Squares.
  - c. Demonstrate the proper use of Levels.
  - d. Demonstrate the proper use of Hi-Lo Gauges.
- 3. Discuss the various fit-up tools
  - a. Describe the use of Hydraulic Jacks in joint fit-up.
  - b. Describe the use of Chain Hoists in joint fit-up.
  - c. Describe the use of Come-Alongs in joint fit-up.
- 4. Demonstrate the proper way to fit-up joints using the various fit-up tools

**Air Carbon Arc Cutting and Gouging: Note: June 22-26**

**Competencies and Suggested Objectives: Note: see Youtube “Air Carbon Arc Cutting and Gouging”**

- 1. Explain the Air Carbon Arc Cutting (CAC-A) process.
- 2. Identify the various CAC-A electrodes.
  - a. Identify plain, copper-coated for direct current and copper-coated for alternating current.
  - b. Identify various electrode styles such as round, round-jointed, and special shapes.
  - c. Demonstrate proper setup of CAC-A equipment for safe operation.
- 3. Perform washing and gouging activities using CAC-A equipment.
- 4. Properly store equipment and clean the work area after use.

**Weld Quality: Note: June 29-July 2**

**Competencies and Suggested Objectives: Note: see Youtube “Assessing Weld Quality”**

- 1. Explore regulations and job code specifications for welding, base metal cleaning, joint designs and their purpose.
  - a. Discuss codes governing welding, the causes of weld imperfections, welder qualification tests, and the importance of quality of skill.
  - b. Select and use a nondestructive examination practice and a destructive test method to test a student-made weld.

**Gas Metal Arc Welding (GMAW) and Flux Core Arc Welding (FCAW)**

**Note: July 6 - 16**

**Competencies and Suggested Scenarios: Note: see Youtube “GMAW/FCAW”**

- 1. Explain the GMAW and FCAW welding processes.
  - a. Explain the characteristics of welding current and power sources.
  - b. Explain the use of GMAW and FCAW shielding gases and filler metals.
  - c. Discuss the safety precautions to observe when operating GMAW and FCAW equipment.
- 2. Explain the use of GMAW and FCAW equipment parts and modes.
  - a. Discuss Spray Transfer mode.

- b. Discuss Globular mode.
- c. Discuss Short-circuiting mode.
- d. Discuss Pulse mode.
- 3. Demonstrate proper setup of GMAW and FCAW equipment.
- 4. Set up and perform GMAW-S (short-circuit) multiple-pass fillet welds on carbon steel plate coupons in multiple positions, using solid or composite wire and shielding gas.
- 5. Set up and perform GMAW-S (short-circuit) multiple-pass V-groove welds on carbon steel plate coupons in multiple positions (with or without backing), using solid or composite wire and shielding gas.
- 6. Set up and perform FCAW multiple-pass fillet welds on carbon steel plate coupons in multiple positions, using flux-cored wire and, if required, shielding gas.
- 7. Set up and perform FCAW multiple-pass V-groove welds on carbon steel plate coupons in multiple positions (with or without backing) using flux-cored wire and, if required, shielding gas.
- 8. Properly store equipment and clean the work area after use.

**Gas Tungsten Arc Welding (GTAW) Note: July - 20 -31**

**Competencies and Suggested Scenarios: see Youtube “Gas Tungsten Arc Welding”**

- 1. Explain the GTAW welding process including safety procedures.
- 2. Identify the various parts and function of GTAW equipment
  - a. Identify and describe the function of the various GTAW torches.
  - b. Identify and describe the function of the gas nozzles used in GTAW.
  - c. Identify and describe the function of tungsten electrodes used in GTAW.
  - d. Identify and describe the function of the shielding gas used in GTAW.
- 3. Identify the various types and appropriate uses of GTAW filler metals.
  - a. Discuss Carbon Steel and Low-Alloy Steel.
  - b. Discuss Stainless Steel, Aluminum and Aluminum alloy.
  - c. Discuss Copper, Copper alloy, Nickel and Nickel alloy.
  - d. Discuss Magnesium alloy, Titanium and Titanium alloy. e. Discuss Stainless Steel flux-cored electrodes and rods.
- 4. Demonstrate the proper setup of GTAW Equipment.
- 5. Setup and perform multiple-pass GTAW fillet welds on carbon steel plate coupons in 1F, 2F, 3F and 4F positions using carbon steel filler metal.
- 6. Properly store equipment and clean the work area after use.